The Monmouth County Board of Health

Robert Peters President

3435 HIGHWAY 9 P.O. BOX 1255 FREEHOLD, NEW JERSEY 07728-1255 TELEPHONE (908) 431-7456 Lester W. Jargowsky, M.P.H.
Public Health Coordinator
and
Health Officer

October 20, 2003

Deborah Pinto NJDEP Office of Local Environmental Management CN 402 Trenton, New Jersey 08625

Dear Ms. Pinto,

Attached is the Monmouth County Health Department CEHA grant application for 2004. Please note that the Program Narrative for the PNC Well Data Collection Project incorrectly identifies that 140 wells in Monmouth County need GPS locations obtained; this work was completed in 2002.

The governing body authorization (for up to \$247,475) and a copy of the insurance certificate will be forwarded to you after the first of the year as you directed.

Thank you for this opportunity to fund these necessary programs.

Sincerely yours,

William Simmons Environmental Health Coordinator

cc Joseph Morris MC Finance

The Monmouth County Board of Health

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Public Health Coordinator
and
Health Officer

TELEPHONE (908) 431-7456

To:

Joseph Morris, M.C. Finance

From:

William Simmons, M.C. Health Deptl

Re:

2004 County Environmental Health Act Application

Date:

October 20, 2003

Attached is the Monmouth County Health Department CEHA grant application for 2004 with a draft letter to Deborah Pinto, the grant administrator.

The governing body authorization (for up to \$247,475) and a copy of the insurance certificate should will be forwarded to Ms. Pinto after the first of the year as she has directed.

Please contact me if you need anything further.

MONMOUTH COUNTY HEALTH DEPARTMENT

COUNTY ENVIRONMENTAL HEALTH ASSESSMENT AND IMPROVEMENT PLAN 2004 CEHA GRANT AND ANNUAL REPORT

COMMUNITY

Monmouth County has a land area of 471.74 square miles (1222.48) km2) and is located entirely within the Coastal Plain in eastern-central New Jersey. The county is comprised of 53 municipalities: two cities, Long Branch and Asbury Park, fifteen townships, thirty-five boroughs and one village. The most populated municipality is Middletown Township and the least populated is the Village of Loch Arbour; Howell Township has the largest land mass of 64 square miles. First settled by migrant New Englanders in 1664, Monmouth County was formed in 1683 by the Proprietary Assembly, and may have been named after Monmouthshire in South Wales, England.

In the early twentieth century much of the housing was constructed and used as summer homes; today, two thirds of the population live within a five-mile corridor along the Bayshore coastline and the Atlantic Ocean coastline. The most current population estimate is 615,301; it is the 4th most populated county in N.J. with 7.3 % of the total state population on 6.2 percent of the land area (6th largest). The median age as of 1995 was 35 years, making Monmouth younger than many other N.J. counties; age 65 and over in 1995 was 12.6 %. The top 5 employers in Monmouth County as of 2003 are: Meridian Health Systems (7400), AT&T (5900), Fort Monmouth (5569), Monmouth County (3366), Monmouth Medical Center (2250). As of 1990, almost 65 % of commuters worked within the County; 25% commuted to other New Jersey counties and almost 10% commuted to New York state.

There are 2,756 miles of highway in the County, including the Garden State Parkway, Interstate 195, and several state highways. Rail shipments in Monmouth County are handled by Conrail, which is jointly owned by CSX Transportation and Norfolk Southern. Passenger rail service is provided by the New Jersey Transit's North Jersey Coast Line from 13 locations in Monmouth County. New Jersey Transit, Suburban and Academy buses provide service along the main corridors. Ferries to New York operate out of Highlands, Atlantic Highlands, and Belford in Middletown. New York City is 20 miles to the north across Raritan Bay and Philadelphia is 75 miles to the southwest of the County.

Total visitor spending in New Jersey as of 1997 was 1.68 billion dollars. The county is home to 27 miles of ocean and 26 miles of bay coastline in the County, most of which are used for recreational bathing. Its ocean and bay beaches are the closest to metropolitan area's 640 Combined Sewer Overflows, located from Perth Amboy to Connecticut, that legally discharge sewage into the Raritan Bay estuary. There are many parks (11,340 acres), marinas and golf courses; almost 11% of the County is public open space. Monmouth has the largest number of horses in the state, with 19,000 acres devoted to equine activities. There are 3 enclosed malls; and Monmouth Park Raceway, PNC Arts Center, and Wall Stadium.

A long shoreline and many estuaries provide a resource of clams and fish, and the rich glauconitic soil of the interior lowlands enables a varied and generous production of agricultural products. Lowlands and plains characterize most of the County, with the most northerly extent of the Pine Barrens beginning in Manalapan. The most prominent landform in the County is a ridge, known as the Mount Pleasant Hills, that extends from Keyport southwest to Imlaystown and south into Ocean County. These hills also extend eastward from Keyport to the Navesink Highlands. In the Highlands the hills rise abruptly from sea level to a maximum elevation of 266 feet; Mount Mitchell in Atlantic Highlands is the highest point on the eastern seaboard south of Maine. From the Highlands westward the Mount Pleasant Hills range in elevation from 200 feet at Chapel Hill, Middletown, to 391 feet at Crawford Hill in Holmdel, the highest point in the County. Near Perrineville a series of hills rise to nearly 360 feet in elevation; west of Imlaystown the relief again flattens out (as it also does west of Morganville) and the hills only range up to 100 feet or so in elevation. A smaller group of hills called the Hominy Hills stretch from Colts Neck nearly to Eatontown; elevations range from nearly 200 feet to 307 feet at Naval Weapons Station Earle.

The Mount Pleasant Hills divide drainage in the County into three major directions. West of the Hills streams flow into the Delaware River and Raritan River basins; north of the Hills streams empty into the Raritan and Sandy Hook Bays; and east of the hills streams flow to the Atlantic Ocean, and in the case of the north branch of the Metedeconk River, into Barnegat Bay. Major streams flowing to the Delaware River are Crosswicks Creek, Doctors Creek and Assunpink Creek; streams flowing into the Raritan River Basin are Deep Run, Manalapan and Matchaponix Brooks and the MillstoneRiver; the Navesink and Shrewsbury Rivers, Comptons, Chingarora and Matawan Creeks all flow into Raritan or Sandy Hook Bays; the Shark and Manasquan Rivers flow into the Atlantic Ocean. All streams except Crosswicks Creek have their headwaters in Monmouth County and flow outward. This also includes Toms River and the north branch of the Metedeconk River.

No exact figure is available for water area but it is estimated at approximately 59 square miles. Stream patterns are for the most part symmetrical and dendritic, i.e. the streams as viewed from the air resemble tree root systems, with feeder streams nearly equally distributed on both sides of the main stream. Monmouth County's 6 Watershed Management Areas are uniquely susceptible to erosion because they flow through soils that are the geologic ecotone of the glauconitic silt and clay between the Piedmont cobble and the coarse sands of the Outer Coastal Plain.

Depending on location, wells can be drilled in any of 3 to 5 distinct aquifers, from the unconfined water table to 1200' deep in the confined Raritan-Magothy aquifer in southeastern Monmouth. These 'layer cake' aquifers are separated by clay aquitards and are established on a bedrock of schist.

The mean annual temperature for Monmouth County is 53 degrees F. The hottest day of record for Freehold is 106 degrees F in July 1936 and -20 degrees F in February 1934. Temperatures of 32 degrees F or less have been recorded as late as May 17th and as early as September 24th in the fall. In the Freehold area the growing season averages 178 days in length from April 23rd to October 18th.

Precipitation in Monmouth County ranges from 45 to 47 inches a year. The heaviest rainfall amounts Countywide normally occur during the summer months when tropical storms pass north along the New Jersey Coast. A drought that lasted from September 1961 through August 1966

was one of the most significant multi-year departures from normal precipitation in recent years. Snowfall on a countywide basis averages around 25 to 26 inches a season. The maximum year snowfall for Freehold was 66.9 inches during 1957-1958. The majority of snow falls between the months of December and March inclusive, although snow has fallen on all months from October through May inclusive.

Much of this data was taken from the Monmouth County Planning Board and the Monmouth County Mosquito Commission websites.

PLAN

The Monmouth County Health Department (MCHD) was created in 1978 by Freeholder Resolution to provide Public Health and Environmental Health Services to contracting municipalities. There are now 32 environmental professionals and clerks dedicated to MCHD's environmental programs in offices in Freehold and Tinton Falls. The County Environmental Health Act (CEHA - N.J.S.A. 26:3A2-21) gives the MCHD, as the certified local health agency for the county of Monmouth, power and authority to enforce applicable Environmental Statues and Administrative Codes, specifically N.J.A.C. 7:1H. The New Jersey Department of Environmental Protection has delegated the MCHD as the certified local health agency for the County of Monmouth.

| Monmouth County Health Dept | Lester W. Jargowsky, M.P.H. | Phone: 732-431-7456 | |
|-----------------------------|-----------------------------|--------------------------------------|--|
| 3435 Highway 9 | Public Health Coordinator | Fax: 732-409-7579 | |
| Freehold, NJ 07728-2850 | | Website: | |
| | | www.visitmonmouth.com/health | |
| | | Serving: | |
| | | ALLENTOWN BORO | |
| | | ASBURY PARK CITY ATL HIGHLANDS BORO | |
| | | AVON-BY-THE-SEA BORO | |
| | | BELMAR BORO | |
| | | BRADLEY BEACH BORO | |
| | | ENGLISHTOWN BORO FARMINGDALE BORO | |
| | | HOWELL TWP | |
| | | MANASQUAN | |
| | | MARLBORO TWP | |
| | | MILLSTONE TWP | |
| | | NEPTUNE CITY | |
| | | NEPTUNE TWP OCEANPORT | |
| | | ROOSEVELT BORO | |
| | | SEA GIRT BORO | |
| | | SOUTH BELMAR BORO | |
| | | SPRING LAKE BORO | |
| | | UNION BEACH WALL TWP | |
| | | WALL I WP | |

Subcontractors

Under mandated agreements since 1996, two subcontractors - the Monmouth Regional Health Commission # 1, and the Matawan Regional Department of Health – follow-up on complaints and enforcement in municipalities under their jurisdiction as the local health agency (the Red Bank Regional Health Department was a subcontractor until it was absorbed by the MRCH#1 in 2003).

| Matawan Regional Dept of Health | Alan C. Hopper | Phone: 732-566-0740 | |
|---------------------------------|----------------|---------------------|--|
| 145 Broad Street | Health Officer | Fax: 732-566-7283 | |
| Matawan, NJ 07747 | | Serving: | |
| | | HOLMDEL | |
| | | KEANSBURG | |
| | | KEYPORT | |
| | | MATAWAN | |

| Monmouth Cty Reg Health Commission No. 1 | Sidney B. Johnson, Jr., M.S., MBA | Phone: 732-493- 9520 |
|--|-----------------------------------|---|
| 1540 West Park Avenue | Health Officer | Fax: 732-493- |
| Suite 1 | | 9521 |
| | | 7321 |
| Ocean Twp, NJ 07712 | | |
| | | Serving: ALLENHURST BRIELLE DEAL EATONTOWN FAIR HAVEN HIGHLANDS INTERLAKEN LITTLE SILVER LOCH ARBOR VILLAGE MONMOUTH BEACH OCEAN TWP RED BANK RUMSON SEA BRIGHT SHREWSBURY SPRING LAKE HEIGHTS SREWSBURY TWP |
| | | TINTON FALLS WEST LONG BRANCH |

LOCAL ENVIRONMENTAL ISSUES

The County Environmental Health Standards of Administrative Procedure and Performance (N.J.A.C. 7:H) are regulations authorizing and requiring the MCHD to take action in specific areas of environmental health. The MCHD shall investigate citizen complaints and provide public information and citizen education services in all matters concerning environmental health. The MCHD shall monitor the various State statutes, rules and regulations concerning environmental health; shall gather evidence of said violations as required; and shall provide witnesses for any resultant court action as needed. The MCHD may maintain an action in a court of competent jurisdiction against any other person to enforce, or to restrain the violation of any statute, regulation or ordinance which is designed to prevent or minimize pollution, impairment or destruction of the environment as provided in the Environmental Rights Act N.J.S.A. 2A:35A-1 et seq. Settlement offers and fees shall be deposited into the Monmouth County Environmental Quality Enforcement Fund (EQEF).

The County Health Department is obligated to serve as lead agency in Monmouth County in the investigation, enforcement, and regulation of air pollution, solid waste disposal, hazardous waste storage and disposal, water pollution, noise, and laboratory services. As such, the County Department of Health coordinates, directs and provides environmental protection responsibilities as a provider of services for investigation, evaluation, sampling and analysis, enforcement and litigation to non-county local health departments and directly to the citizens of Monmouth County to promote and assure a safe and healthy community in which to live.

Activities mandated under CEHA continue to increase as the Department's services increase in demand. County-wide ambient surface waters and coastal bathing water samples have increased substantially in numbers, as has the Rapid Bioassessment work in conjunction with the Watershed Area Rules. As part of the Water Pollution Program, the Monmouth County Department of Health Environmental Laboratory is a NJ state certified laboratory that is audited by the New Jersey Department of Environmental Protection. It currently holds 34 parameter certifications in microbiology and chemistry for drinking water and water pollution, including Rapid Bioassessment and algal analysis. It operates under the Regulations Governing the Certification of Laboratories and Environmental Measurements. N. J.A.C. 7:18. The purpose of the laboratory is to support regulatory programs, environmental investigation, and other testing needs of the county. The MCHD provides analytical services to nine local health departments, the MC Prosecutor's office and other law enforcement agencies.

Areas of significant groundwater contamination and public non-community water systems are programs for the concentrated efforts to ensure safe drinking water is available to residents of the County not presently serviced by public community water systems are maintained. Emphasis on potable waters, particularly PNC enforcement and the Private Well Testing Act, continues to increase.

As part of our Water Pollution Control Program, MCHD a full time GIS Specialist was funded under the CEHA grant in 1994. The Geographic Information System is operated with one full time staff, and/or compensated part-timers and continues to consolidate our map data in digital form and allow trend analyses previously unavailable. In 1996, the GIS Technician was transferred from MCHD to MC Information Services to facilitate the establishment of a countywide GIS system, a direct reflection on how the work on GIS by MCHD since 1990 has produced benefits for the county system as well as for this department. MCHD will continue to support county agencies other than the Health Department. MCHD also produces differentially corrected data that is capable of accuracy of up to 3 meters with our Global Positioning Units.

Reaction to emergency call-outs utilizing the MCHD Hazmat Response Team continues to improve in efficiency. In May 2002 MCHD took possession of a new emergency response truck. The truck has numerous state-of-the-art features, including a command center, air system for filling SCBA air cylinders and operating pneumatic tools, a generator for providing electricity and scene lighting, and ample storage for the team's equipment. As the Department's capabilities are realized, the demand for assistance in handling leaking underground storage tanks, as well as abandoned chemicals, spilled hazardous waste, pesticide complaints, industrial exposures, and terrorist threats has increased. To meet our growing responsibilities the Hazmat program added two Hazardous Materials Responders in 2002. This brings the staff up to five full-time employees. Including personnel from other MCHD programs, the Hazmat Response Team now has 10 members trained to the hazmat technician level. In the past year, our members attended Weapons of Mass

Destruction (WMD) response courses offered by the Department of Justice at facilities in Alabama, New Mexico, and Nevada. Continuing staff cross training has improved safety, response time and ability to handle more complex situations, including responses related to counter terrorism. On 9/11/01, the MCHD Hazmat Team responded to Atlantic Highlands to decontaminate approximately 700 people who were evacuated by ferry from New York. In October and November 2001 the Hazmat Team responded to over 300 calls of suspicious letters and packages related to the anthrax attacks. In 2003, MCHD partnered with the Monmouth County Office of Emergency Management, the Monmouth County Critical Incident Committee, and the 6 other County Hazmat teams to spend various grants related to homeland security. As per the additional CEHA 2003 grant for hazmat equipment, the hazmat/terrorism annex of MCOEM's LEPC was updated and signed Memorandums of Agreement have been obtained with all but the 2 military hazmat teams (they have been delayed due to military internal review). MCHD's Hazmat Team passed its first ever PEOSHA inspection in 2003.

Air pollution control compliance inspections have increased substantially through compliance of monitoring gas stations, dry cleaners and other volatile organics emitters. State mandated monitoring of Stage I and II vapor control devices required for gasoline stations has increased substantially. Mandated inspections of body shops, spray booths and class B (boiler) facilities will continue through 2002. As noted in the Bergen County plan, each person breathes approximately 3400 gallons of air a day. Noise pollution complaints continue to be investigated and violations abated.

Action toward solid waste disposal violations, particularly recycling violations in the field and at the County Reclamation Center has been very successful. New areas of enforcement are evolving under the revised Solid Waste Management Plan that regulates intrastate waste flow. Recycling enforcement expanded to field audits of generators as well as hauler inspections at the landfill. Current penalty collection by the Health Department when necessary provides a noticeable impact on the regulated community. Tire storage investigations and Greenstart compliance inspections of municipal DPWs continues.

The permanent HHW facility continues to receive monthly increases in waste it receives. This program, like the Solid Waste Enforcement Team (SWET), is supported by an alliance of 3 departments: MCHD, MC Reclamation Center (MCRC), and MC Planning. Operations and 5 staff are under the purview of MCHD; a sixth Hazardous Waste Technician was added in 2001. The Hazardous Waste Supervisor and Technician titles, which were written by Burlington County several years ago and edited by MCHD in 1997, were finally approved as new Civil Service title in 1999. In addition SWET staff have been reduced from 10 to 7 through attrition as part of cost cutting due to the MCRC tariff reduction because of court decision prohibiting out of state flow control. Under the leadership of County counsels, we established a program-wide enforcement protocol (Offers of Settlement) in 1996, modeled after the recycling ordinance (Ordinance #8), which has been successfully implemented since it was adopted under DEP guidelines in 1988.

Statewide Strategic Environmental Goals

Goal: Clean Air

The air throughout the state will be healthful to breathe, and air pollutants will not damage our forests, land and water bodies.

Milestone: By 2007, air throughout the State will meet national Clean Air Act standards for

ozone and other air pollutants.

Activities: Continue to inspect minor and B source air permitted facilities to determine

compliance with the State's air pollution control regulations, with emphasis on

inspecting gas stations that have not been inspected in 4 or more years.

Continue to conduct inspections at potential facilities that may require air permits

as needed.

Conduct complaint investigations as referred by citizen and NJDEP.

Participate in the air toxics inventory pilot project. Counties will conduct inventories of other pollutant categories associated with industries vulnerable to terrorism at the direction of NJDEP.

Goal: Clean and Plentiful Water

New Jersey rivers, lakes and coastal waters will be fishable, swimmable and support healthy ecosystems. Surface and ground water will be clean sources of water. Every person in New Jersey will have safe drinking water. Adequate quantities of surface and ground water will be available for all uses.

Milestone: 95 percent of the public non-community water systems will provide water that

meets chemical and microbiological drinking water standards.

Activities: Continue to inspect non-transient PNC systems at least every two years and

transient PNC systems at least every four years.

Continue to implement the NJDEP Zero Tolerance Policy for PNC systems found in violation. Periodically review the NJDEP public water database (PWS) to determine if any PNC systems have failed to sample as required and undertake enforcement, to return violators to compliance. Provide correct, updated information on the status of PNC's to NJDEP.

Counties that are participating in the migrant farm camp wells sampling program will continue to collect ground water samples, both pre and mid-season for analysis. If counties identify any exceedences of drinking water standards, appropriate compliance and enforcement actions will be taken to assure a safe drinking water supply. Report findings to the USEPA at conclusion of the season.

Milestone: By 2005, 50% of assessed non-tidal river miles will support healthy, sustainable

biological communities.

<u>Activities</u>: Continue to collect surface water samples at the NJDEP selected ambient surface

water stations at a frequency of 5 samples over a 30-day period. These samples will be delivered to the DHSS lab or to the DHSS courier for transport to DHSS

since DHSS will handle the analysis.

Control pollution emitted to the waters of the State. Milestone:

Investigate all water pollution complaints received from citizens and NJDEP. Activities:

- * A scheduled ambient surface water-monitoring program will be continued.
- Laboratory services will be provided by the in-house Certified Laboratory maintained by this Department.
- * Analysis will be provided of solids, sediments, water columns, saline waters.
- Laboratory services will be provided to support the needs of the Coastal Monitoring Program. Additional special collection and laboratory services will be provided to NJDEP on demand. Strong emphasis on RBA and algal analysis in addition to routine ambient parameters.
- * The programmatic work of the Water and Hazmat Programs will be coordinated to insure maintenance of surface and ground water quality criteria.

By 2005, 100 percent of New Jersey's recreational beaches will be safe for Milestone: bathing.

> Perform (or contract to have performed) the recreational beach monitoring and pollution source investigations.

> Each season compile, from all municipalities within the county, the list of recreational bathing areas on lakes and streams, and the number of beach closings required due to water quality impairments.

- * Staff will continue to perform routine monitoring of the coastline, especially with regard to algae and illegal discharges.
- * MCHD will continue to operate a sewage pump out boat on the Navesink that was bought in 2000 with Clean Vessel Act Funding, and has almost doubled the amount of sewage pumped since 2001.
- Matawan Regional Health Department conducts CCMP samples. The Middletown Health Department conducts CCMP sampling and investigations under the authority of the state sanitary code and delivers the samples to the MCHD lab for analysis and archiving.

Goal: Safe and Healthy Communities

Every New Jersey community will be free from unacceptable human health and ecological risks due to direct exposure from hazardous substances and other potentially harmful agents. Natural resources will be managed to protect the public from floods, fires and storms.

<u>Milestone</u>: Exposure to environmental risks will be controlled and minimized.

Site Remediation Program

Activities:

Respond to all hazardous material emergencies referred by NJDEP to assess environmental health threats and advise hazardous material response units accordingly. Make recommendations to and coordinate these response actions with appropriate federal, State and local agencies. Ensure that personnel assigned to respond to hazmat incidents are properly trained and participating in a medical surveillance program.

Investigate hazardous materials complaints and WMD/threats received from citizens and NJDEP. Refer cases requiring remedial action to NJDEP.

- * All MCHD entry-level responders shall be trained and medically monitored in compliance with relevant regulations including CFR 1910.120, 1910.134 and the MCHD Respiratory Protection Plan. A Public Health Emergency Response Team is evolving as a component of the department's total emergency response to terrorism.
- * Cooperate with the Monmouth County Environmental Crimes/Homeland Security Task Force in the investigation and prosecutions of violators of environmental contamination statutes and regulations.
- * Follow-up referrals from DEP's Site Assessment unit as required by the DEP Site Remediation Program.
- * Utilize MCHD's after hours HAZBACK/WMD team of 10 trained staff.
- * At least one staff member trained in UST remediation.

Solid Waste Program

<u>Milestone</u>: To achieve and maintain the safe management of wastes in an environmentally sound manner.

<u>Milestone</u>: By 2005, recycling rates of 65 percent of the total solid waste stream and 50 percent of the municipal waste stream will be achieved throughout the state

Activities: Continue to investigate all solid waste complaints received from citizens and NJDEP.

Conduct routine compliance monitoring inspections of Class A recycling facilities, convenience centers and farmland mulch sites, and continue to update

the list of these sites and provide to the NJDEP. As requested, conduct inspections of BUD (beneficial use) soil sites.

Continue to monitor solid waste haulers to ensure compliance with the Solid Waste Management Act.

Continue compliance monitoring inspections of all other delegated solid waste facilities.

Monitor storage of scrap tires to determine compliance with storage of tires in accordance with the Solid Waste Regulations. Take enforcement as needed.

Conduct greenstart compliance assistance audits at a percentage of the DPW yards to proactively identify potential solid waste problems.

- * Enforce regulations regarding solid waste management and wasteflow adopted pursuant to N.J.S.A. 13:1E, the Monmouth County Solid Waste Management Plan, Monmouth County Ordinance #8 for recycling enforcement, et.al.
- * The management and operation of the Household Hazardous Waste Collection program, the dry and wet battery, waste oil, anti-freeze, compressed gas cylinder recycling programs, and monitoring onsite for hazmats in the solid waste stream.
- * Conduct waste audits at commercial properties and institutions, prioritizing those with the greatest number of employees/persons.

Noise Control

Milestone: Control noise that unnecessarily degrades the quality of life and/or affects the health and safety of people of N.J.

Activities: Investigate noise complaints received from citizens and the NJDEP that are under the jurisdiction of the Noise Control Regulations, and if applicable, enforce these regulations to achieve compliance.

Goal: Open and Effective Government

The Department will fulfill its vision and mission and achieve its goals through the involvement of citizens and stakeholders as critical partners and through a commitment to quality principles and methods as a means to continuous improvement of its operations.

Activities: Encourage and develop strategic partnerships with other local, state and federal agencies, nonprofit organizations, environmental commissions, the general public, and the business community to address environmental issues and concerns.

Provide education and outreach as well as environmental data to community groups, and respond to OPRA requests.

Participate in local watershed management groups, Emergency Response/WMD teams, the County Critical Incident Committee, and the preparation of and annex to the LEPC containing mutual aid resources of water and sewer companies etc.

EMERGING ISSUES

The following are issues that Monmouth County is seeking DEP support for additional funding.

EMERGENCY PREPAREDNESS

It is the mission of the Monmouth County Health Department's Hazardous Materials Team to respond to and provide for incidents in the Monmouth County area to effectively address responder safety issues, incident management, and public health consequences of WMD/NBC incidents that result from accidental or deliberate acts. This support and assistance includes providing planning and training by the County Haz-Mat team or the Fire Academy to first responders within the county prior to an WMD/NBC incident, identification of the hazardous substance through available technology, and response to the scene or secondary site to assist with incident management and first responder care during a WMD/NBC incident. Thus far about 20 fire departments have been trained in mass decon for hospitals and ferries, and mutual aid has been established with 6 hazmat teams. These activities will be conducted in collaboration with and supported by local, county, state and federal authorities. These include responding within the Incident Command structure to WMD/NBC events within the local jurisdiction; providing technical assistance in the identification of WMD/NBC agents; supporting coordination with designated regional, state and federal WMD/NBC incident response assets; and providing training to response personnel. At a minimum, funding is needed for the hazmat backup team and for supplies and equipment.

HOMELAND SECURITY

During 2003, the Monmouth County Health Department participated in several meetings with members of the water supply and wastewater treatment utilities and the MCOEM serving Monmouth County. The goal is to develop a countywide mutual aid plan that the utilities can implement to maintain essential operations during a terrorist attack. As a side benefit, we discovered the utilities have vast resources in equipment and personnel that the county may be able to call upon to support a long term hazmat or WMD/NBC incident. Now that this step has been initiated, the second logical step would be to inspect the water companies to see if their infrastructure (especially the knowledge and testing of valves and their biofilm maintenance) is well prepared in advance of a terrorist event.

According to the New Jersey Domestic Security Preparedness Act, the State must review the preparedness of the public and private sector in order to ensure its readiness, foster cooperation and coordination between the public and private sectors in assessing risks, and develop and implement preparedness, response and recovery strategies. As a result, the NJDEP will need to conduct field checks to verify that water purveyors', sewer authorities, and key private businesses such as airports, heliports, and aerial pesticide applicators, develop and adhere to security assessments and best practices. This will be especially crucial for vital water and sewer companies that are too small to receive regulatory attention by state agencies (municipals, trailer parks etc). MCHD could also be used to field verify information that has been reported to the DEP by regulated companies. Any security details learned through the field checks conducted

by MCHD personnel will be kept strictly confidential. The DEP could give a lump sum of money or pay per inspection at a predetermined rate.

REGULATED STORAGE TANK INSPECTIONS

MCHD will continue to perform up to 50 inspections per year at commercial underground storage sites if funded and trained appropriately by the DEP.

GIS – LAN, including VIRTUAL PRIVATE NETWORK (VPN)

The Monmouth County Health Department has developed a VPN to establish secure communications during hazmat and WMD/NBC incidents. The VPN will permit secure, encrypted connections between the Incident Command Center (ICC) and multiple remote locations. During large-scale incidents with extended operations, the VPN will allow the ICC to obtain real time information from a multitude of remote locations. It will also allow the remote locations to communicate with each other. Resources can be deployed, tracked, and replenished in the most efficient manner possible. Because the VPN is an internet-based system it does not tie up other forms of communication (i.e. two-way radio, cellular telephone, pager) typically utilized by other emergency responders. In addition, MCHD has a well established GIS and LAN. \$13,000 in funding is needed to provide computers and ancillary equipment to support/expand existing systems.

CCMP

The Monmouth County Health Department performs weekly bacterial sampling at 61 sites from May 1 through the end of September, and 17 sites on a monthly basis during the winter months. All samples are tested in-house at the Monmouth County Environmental Laboratory for fecal coliform, and the 17 winter sites are also tested year round for enterococcus. Additional funding should be continued for 2004 as media costs and followup sampling is anticipated with the change to enterococcus as indicator organism.

In 2002, the Monmouth County Health Department compared 1998-2001 NJ Coastal Cooperative Monitoring Program fecal coliform data at Brown Av Beach in Spring Lake to 6-minute rainfall data posted on the South Jersey RC&D Council, Inc (www.sjred.org). This beach is adjacent to Wreck Pond, a 5-mile Rosgen 'C' watershed eroded by development with several lakes and hundreds of Canada geese. Elevated coliform trends associated with rain, wind direction, and months associated with water temperatures were compelling enough to convince municipal officials to close the beach for 24 hours after every rainfall greater than .1 inch; for 48 hours after a 1 year storm (2.8 inches); and during dry weather in July and August when onshore winds moved the lake plume into the swimming area. This is an example of how a local health department can use available data in a simple illustrative presentation to initiate proactive public health protection ahead of definitive scientific research and state regulations.

The DEP should consider funding a university project that would create a web-based database modeled after the real-time "syndromic surveillance" databases that are now being developed for tracking bioterrorism. It would be designed to link historic and current FC results to other databases containing rain, wind direction and speed, water temperature, etc., in order to cost-effectively accelerate the current methods of identifying closure trends at bathing sites. The effects of rain intensity and the length of time in between rain events on FC also needs to be

investigated. The DEP needs to fund the establishment of additional quality-controlled weather sites along the shore that collect 6-minute rain data like the SJR&DC station in Howell.

In 2003, MCHD partnered with representatives of the University of Connecticut in a pilot study comparing the traditional 24 hour enterococcus test with their 4 hour enterococcus test. This test if validated would change beach sampling as we know it (UConn contacted MCHD following a websearch). Initial results showed a good comparison and work may continue this summer.

In the fall of 2003 MCHD will be meeting with Virginia Loftin of the DEP to be trained in using the 'Hydroqual' model; this is the model used to predict when and where sewage from a malfunctioning sewage plant in the metropolitan area will landfall in Monmouth County. We will incorporate this into our responses when sewer bypasses happen in the future.

Problems with hiring a part time pumpout boat captain has led the decision to hire a full time person to work 4 months on the boat and assist in other programs the other 8 months of the year for 2004.

PRIVATE WELL TESTING ACT

Real estate transactions involving properties with private wells will require testing of the water, and will require the buyer and seller to be notified of the test results; much of Monmouth County west of the Garden State Parkway depends on domestic wells. The 2003 grant award of \$7000 should be increased for 2004 in anticipation of the increase in workload due to gross alpha testing. Gloucester and Salem counties' investigatory and followup costs for GA testing incurred since March of 2003 could be used by OLEM to calculate a percentage increase.

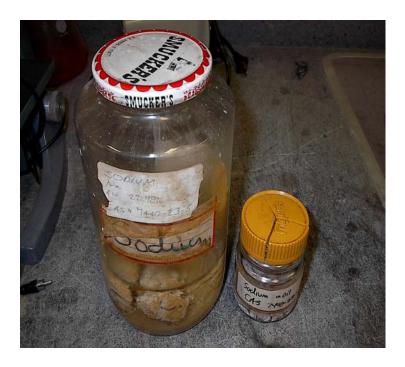
The PWTA will also accelerate the focus on residential and commercial indoor air pollution from groundwater off-gassing. DEP should not only be focusing on training the counties about how to interpret these analyses but should also firmly set a clear partnership with the NJDHSS to assist counties on the technical issues related to making a public health assessment of the data on an ad hoc basis, including mandatory presentations by NJDHSS when meetings with the public are necessary.

RADON IN SCHOOLS

In order to continue working towards meeting the goal of having all schools in the County tested and mitigated for radon when testing exceeds the 4pCi/l standard, DEP should fund additional work that makes use of the first years work where questionnaires and outreach materials were distributed.

Specifically, fund additional followup visits to schools with testing or mitigation issues in order to ensure reasonable followup by the schools. This is especially relevant for 2004 since the radium issues in groundwater may lead to renewed focus on radon levels in schools.

SCHOOL LABORATORY COMPLIANCE PROGRAM



DEP should strongly consider funding compliance programs for counties to inspect how school laboratories order, use, and store chemicals, modeled on the consultative approach of the DEP's Greenstart Program for municipal DPW inspections.

Since 1986, MCHD has made visits or reviewed and approved school chemical submittals at least 164 times. At least 65 different school buildings have been remediated, and we estimate over 36,000 pounds of hazardous materials from school laboratories have been disposed of through our Household Hazardous Waste program. Some of these required assistance from the N.J. State Police Bomb Squad (onsite or remote explosive remediation). We told other schools to contact private companies due to unsafely stored chemicals or radioactive materials in storage. One school required 9 visits due to the quantity of materials and their respective hazards. Some schools stored cyanides directly under strong acids, kept explosive/reactive chemicals in poor containers (i.e. sodium metal in instant coffee jars without full immersion in kerosene or mineral oil, as in the above picture). Other examples: old ethyl ether cans in boiler rooms, old picric acid, corroded leaking containers, chemicals over 50 years old, improper storage/segregation of inventory, small amounts of asbestos, etc..

By modeling this on the Greenstart Program, structured enforcement could be initiated without schools having to face fines, making the effort to protect children and the environment politically feasible, ensuring a further layer of protection against these wastes being accidentally or intentionally misused, and saving taxpayer money due to over-ordering of school chemicals. Greg Hulse, our program coordinator, has developed a power point presentation for presentations school that posted to districts is on our website www.visitmonmouth.com/health/environmental/HHW/hhw.htm .

WATERSHED ISSUES

Non-Impaired 303D sites predominate in channels in sandy soils that are not overwhelmed by erosion or evidence of flow increases. There is a strong association between type of soil and degree of impacts from increased flows from impervious surfaces; there appears to be indirect pollutant increases in sediment and colloidal water quality as well.

Since 2000, the Monmouth County Health Department (MCHD), in collaboration with Watershed Management Area 12, has been collecting and reporting evidence that fecal coliform and total phosphorus adsorbs to eroded glauconitic fines and degrades surface water quality following sediment resuspension.

In order for this correlation to receive additional scrutiny, as part of the 2003 MCHD produced a brochure and made presentations to municipal planning agencies, the Soil Conservation Districts, the MC Water Resources Association, etc. about supporting future planning efforts that would control the environmental, economic and public health effects of urban sprawl on potable and recreational water in coastal plain watersheds. Specifically, Low Impact Design helps prevent uncontrolled increases in stormwater volume degrade benthic habitat, and subsequently water quality, when eroded fines blanket the sediment or persist in the water column as colloids carrying biological or chemical contaminants.

Site list, RBA scores, habitat evaluations, and maps are at www.visitmonmouth.com/health; click on RBA or 303D/TMDL. Funding is requested to continue meeting with municipal, soil and watershed groups about this; \$8268 in additional funding (156 hours meetings and presentation work @\$53/Hr) is requested for this critical initiative.

AMBIENTS

In 2002, the 62 site ambient surface water-monitoring program that MCHD performs became the first County Health Department to have their ambient (and RBA) sampling protocols accepted by the DEP for listing new impaired sites on the 2002 303D list. These documents will be attached to our 2002 annual report and can be emailed upon request.

We are very proud of our laboratory and water pollution programs and wish to continue having our data further the efforts to identify key issues that are crucial to urban sprawl and TMDL/303D concerns. Specifically, the total suspended solids parameter, which is used to regulate new construction runoff by the NRCS, underestimates the actual suspended sediments and was determined to be inappropriate for surface water sampling by the USGS a couple of years ago. Furthermore, the tss standards were based on data derived from studying cobble streams. It is erroneous to apply this standard (25 mg/l for trout streams and 40 mg/l for non trout streams) to silty coastal plains streams typical of Monmouth and other counties. For more information: www.shore.co.monmouth.nj.us/health/environmental/303DTMDL/tss.htm

Besides switching to the suspended sediment method (this analysis is not performed in water testing laboratories used by health departments), the USGS uses a specific meter to measure turbidity. The turbidity analysis and standard (geometric mean of 15 ntus, no single sample to exceed 50 ntus) may be more relevant to coastal plain streams because of the high amount of fines and colloids

resuspended and eroded during rain events. Furthermore, the assumption in many studies that there is a one to one relationship between turbidity and tss is false in streams with high amounts of fines. Working out these issues to establish a relevant standard for construction etc. runoff is crucial to restoring coastal plain streams.

We are requesting \$4000 (\$30/hr * 4 staff * 32 hrs/year sampling + 35 hrs report/gis/webpage) to continue our 62-site ambient program and sample for both tss and turbidity. We would map the ratio of turbidity to tss and overlay those results on erodible vs. non erodible soils in Monmouth County, like we did for RBA in 2000

(http://www.shore.co.monmouth.nj.us/health/GIS/RBA/SoilErodeMap.htm). We anticipate seeing a higher turbidity ratio in watersheds in erodible soils, similar to what we saw for macroinvertebrate impairment.

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GEOGRAPHIC INFORMATION SYSTEM PROGRAM NARRATIVE AND OUTPUTS

There continues to be an essential need for the full time Geographic Information Systems (GIS) specialist position in the Monmouth County Health Department (MCHD.) The responsibilities of this position would be GIS system administration and database design; the continual transfer of data to and from the New Jersey Department of Environmental Protection (NJDEP,) other County and Municipal agencies; maintaining and updating data on the MCHD networked system; identifying data needs and continue incorporating GIS into every section of the Health Department.

We will continue to enhance our capabilities through upgrades in our GIS and Global Positioning Systems (GPS) equipment and software based on Windows platforms. These projects will be coordinated with NJDEP to reduce data redundancy.

The MCHD GIS staff will offer support for public health projects and decision making whenever applicable. GIS staff will work in conjunction with other County departments, and offer support on projects with inter-agency issues such as emergency management. GIS work produced will continue to be formatted so that it can be made available to the public on the MCHD web site. Finally, GPS will remain an essential and accurate means of collecting field data in MCHD work.

MCHD GIS data will be stored in a SDE-Geodatabase, which will be hosted on the County's main Arc-IMS server. This centralized location for data will increase accessibility and ease of use for County GIS users.

The GIS Specialist and other departmental GIS users will assist the staff in identifying usefulness of GIS and possible areas for best implementation. Areas of data weaknesses will be identified solutions will be implemented in order to resolve these weaknesses. Resolution of any potential technical problems will be addressed. Database management issues, such as limiting redundancy as it pertains to multiple working copies of project data, will be a focus of GIS users. A methodology of in-house data distribution will be implemented to assign correct levels of protection for files and directories

The submission of geographically based data shall be submitted in a manner and format consistent with the publication entitled "Geographic Information System, Mapping and Digital Data Standards". Digital data will be submitted to NJDEP as developed through county projects and metadata will be created and updated for these projects following DEP standards.

Attend meetings with NJDEP to provide a county status report, prioritize GIS applications, and assess County GIS data. These meetings shall be arranged by NJDEP bi-annually.

As in previous years, the majority of GIS work will focus on environmental projects. Ambient and Rapid Bioassssment (RBA) surface water sampling results will be studied in a GIS framework in an effort to identify water quality trends and relationships to other environmental features. Other environmental work will include analysis of; sample results from the location of a proposed aquaculture bed site and outfalls and manholes to find areas of concern with elevated

coliform results. GIS will continue to assist in the production of RBA, watershed work, and TMDL related surveys. It will also be used as a means to spatially display data in contaminated site investigations.

In addition GPS/GIS will be used to keep our Public Non-Community (PNC) coverage up to date. New PNCs will be GPSed and added to the pre-existing database. It will also be an important tool under the Private Well Testing Act. If a survey is conducted, wells with a confirmed Maximum contaminate level (MCL) exceedence and wells sampled to delineate the contamination area will be GPSed. In addition, well depth will be added to the spatial coverage to aid in developing three-dimensional maps and to determine the aquifer where the contamination is located.

GIS will also be utilized as a tool to improve our homeland security initiative. Coverages and databases, both in digital and hardcopy formats, will be created to support hazmat and public health responses. Work will be created in both formats to enable responders to access it via a PC or through a resource binder.

New aerial photography, taken in March of this year, will be used in conjunction with existing digital orthophotography to analyze development trends and links to environmental quality.

Coverages with 'live links' will be developed using new ArcGIS software. These coverages will have laptop access to live photographs, access databases, and other forms of data to allow the most current information to be analyzed.